

The Economic Geography of Leisure and Hospitality Destinations

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ABSTRACT

The leisure and hospitality sectors are often understood as becoming progressively more important for the prosperity of regions. Essentially two arguments for this have been made. First, in some regions these service sectors represent a significant share of the economy in terms of value added, employment and possibilities for future growth. Second, these services are recognized as important when it comes to the perceived attractiveness of regions. They can be considered as regional amenities since they offer possibilities for consumption, experiences and recreation. We observe large regional differences when it comes to the actual location of these services.

Therefore, the aim of this paper is to analyze the importance of the factors that determine the location of leisure and hospitality sectors. We follow an economic geography approach where the regional hierarchy itself is modeled in order to explain the spatial distribution of these sectors. Using the concept of market potential, regional spillover effects are accounted for. Understanding the role of proximity to demand is in focus of the paper. In the empirical model several other controls are employed in order to capture the effect of additional important regional characteristics. We use data for Sweden for the time period between 2003 and 2008. Results show that the location of these sectors are highly dependent on market potential in close proximity. There are also competition effects for close by municipalities exerting a negative influence. These results holds true for all sub-sectors but the strength of the effects differ significantly.

Keywords: Leisure, Hospitality, Regional attractiveness

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Introduction

The presence and concentration of leisure and hospitality services is becoming increasingly more important for the prosperity of regions in the contemporary economy. The increasing importance of the sector is acknowledged by both scholars and regional policy-makers (Clark 2004). Increased leisure¹ time, greater purchasing power and a greater variation in the types of leisure activities offered on the market have led to an important change in the pattern of consumption in many city regions. The influence of the presence of these services on the performance of the hosting region's economy are manifold. First, tourism and leisure services may

¹ According to Vogel (2001), "*leisure*" can be conceptualized as the forms of activities engaged in by individuals during their free time where they are freed from obligation or compulsion. In general, the term "leisure" refers the time spent outside of work (VOGEL, 2001, p.4).

represent a significant share of the total economic activity in a region involving important opportunities for employment and growth. Second, the presence of such services are recognized to be essential for the perceived attractiveness of a region. Tourism related economic activities and leisure services can be considered regional amenities because they make available a range of possibilities for consumption, experiences and recreation.

Of course not every region is alike in providing a concentration and variation of leisure services. Many countries display large interregional disparities when it comes to attracting tourists. The extent of these disparities differ depending on the type of leisure service observed. Some services are more evenly distributed across geography, while others are more clustered. This variation in economic activity between regions is extensively discussed in the “new economic geography” literature. However, the use of more traditional location theories for understanding the determining factors behind tourism destinations is somewhat limited.

The purpose of this paper is to reveal some of the underlying factors behind the variation in the magnitude of leisure and hospitality service clusters in space where several spatial characteristics of regions is taken into account. Within an “Economic Geography” framework, we pose the following question: What are the spatial determinants of leisure and hospitality service clusters? In order to answer this question we perform an empirical analysis using data for Sweden. One unique contribution of the analysis is that we use a market potential measure that takes time distances between destinations (regions) into account. This approach allow us to understand to what extent market potential and distance to demand play a role in shaping clustering in space while at the same time controlling for neighbor effects between regions.

In order to capture systematic variations across different kinds of leisure and hospitality services, we group these services in eight categories² and investigate each separately. The groups are *accommodation, culinary, special events, arts, sports, well-being, public* and *motion picture*.

One can argue that the essence of tourism as an activity can be traced back to the very early settlements, where people either individually or in groups changed their location for temporary periods for trade, leisure, or even hunting. However as Dann et. al (1988) mention, the tourism research was discovered by social scientists as late as early 1970s and became credible for scientific investigation. Various aspects of tourism as a sector and as an activity have been addressed both within empirical and theoretical studies. Aramberri (2001) argues that the essential theoretical paradigms in tourism research can be listed under three points: tourism as nonordinary behavior

²The precise composition of each category is given in the empirical section of this paper.

(Graburn 1989; Smith 1992), the theory of life cycle of attractions (Butler 1980; Oppermann 1995), and host-guest paradigm (Smith, 1989).

Tourism as nonordinary behavior deals with tourist experience and its temporal nature (Graburn, 1989; Tussyadiah and Fesenmaier, 2009). It is nonordinary because individuals do not follow everyday life practices. In fact they are extricated from several rules and norms in a setting where the main objective is to *enjoy the time* (Sharpley and Sundaram, 2005).

The evolutionary aspect of tourism is discussed within the concept of life cycle of attractions. The idea is that number of tourists over time follow a trend similar to an S curve. The process starts with *exploration*, followed by *development* and later *stagnation* (Butler, 1980). Butler (1980) argues that the scenario after the stagnation period can vary depending on the place in question. There can be either rejuvenation, or possibly a decline following the stagnant period. Finally the host-guest paradigm tackles the two major parties involved in the tourism practice and the dialectic between the two.

Tourism destinations are not fundamentally different compared to other services in the market in terms of competitiveness. In fact, since the nature of tourism motivates consumers to travel further distances to enjoy the leisure and hospitality services provided elsewhere, many cities (or regions) compete for the same set of customers. As a result, increased leisure time and higher purchasing power mean that the tourism destinations have had to put extra effort in order to maintain or increase their competitive positions over the past decades. The markets for tourism activities have grown significantly in many advanced economies. In this process, several challenges have become evident as pointed out in the literature. Crouch (2011) mentions that the biggest difference between a commodity in a market and a tourism destination in terms of competitiveness lies in the fact that the product of the tourism sector needs to be delivered by several leisure and hospitality service firms together (such as hotels, restaurants, arts, entertainment and recreation related services) rather than by a single firm. He also points out that the competitiveness of a destination is reinforced by public goods such as e.g. the quality of the general infrastructure.

Leisure and tourism services are *'place specific'* since the consumption and production of these services take place at the same time and same specific place. The nature of the establishments in these industries often require them to locate relatively close to large enough markets in order to be able to cover different types of fixed costs. Another specific characteristic of these service establishments is that they tend to locate relatively close to each other. Many leisure services can be considered to be complements to each other. That is, the consumption of one service increases the utility of consuming another. Take, for example, a special event organized in a city, individuals and households residing elsewhere will need accompanying services in order to enjoy that event

(e.g. accommodation, restaurants, retailers, etc.). We know from the retail literature that people have a tendency for multi-purpose shopping behavior in order to maximize their benefits from travelling to a regional market place at some distance from where they reside (Ingene and Ghosh 1990; Ghosh and McLafferty 1984; Arentze and Oppewal 2005). This type of tendency is especially important when it comes to the consumption of experience goods³, leisure and tourism services.

As Haywood (1986) expresses, there is a limited emphasis on the most important unit of analysis for the tourism sector, that is, the “destination”. The destination in this context can be identified as a locality, a production system and composition of services as classified by Framke (2002). These are the places towards which people choose to travel and perhaps stay to enjoy provided attractions and services (Leiper 1995). Taking this as a motivation, we follow an approach rooted in the economic geography literature where destinations are understood as territorial entities with a supply of different kinds of services. Our assumption is that these services are present due to sufficient demand. This means the presence and the concentration of these different kinds of leisure and hospitality services are proxies for the attractiveness of and demand for the destination in question.

Considering the above reasoning this paper is investigating the relationship between factors such as access to markets, human capital abundance, regional indicators of attractiveness and their influence on the concentration of various types of leisure and tourism services. The empirical analysis employs regional data for the years 2003-2008 obtained from Statistics Sweden. A total of 33 different leisure, recreation and tourism related service industries are grouped into eight aggregate categories based on their function. The explanatory power of the abovementioned indicators explaining industry concentration is at the core of the empirical inquiry.

The paper proceeds by introducing the theoretical framework in the next section. In the following section, we introduce the market potential measure which is one of the principal explanatory variables. We continue with presenting the data used in the analyses and providing the empirical model and estimated results. The last section concludes by setting the findings into a bigger picture of societal evolution and change.

³ Experience goods refer to the consumption of the process rather than the good or service in question in the previous literature. Having coffee in a fancy cafeteria and paying a relatively higher amount of money for the same coffee because of the possibility of enjoying the environment is one example given by Pine and Gilmore (1998, 1999).

Location of leisure and hospitality services

The demand for leisure goods and services have captured the attention of several scholars (Andersson and Andersson 2006; Vodel 2001). Andersson (2006) highlights that the demand and supply of recreational products, such as entertainment, arts, and other cultural goods, depend on the development of the total real disposable income of households, and on other macroeconomic conditions. Historical data shows that the *share* of total disposable income allocated to the arts, entertainment, and leisure consumption have experienced an increase in advanced economies over the years. Regarding this historical change, it is expected that the relative share of leisure expenditure would exceed 15 per cent of the overall consumption by the year 2030 (Andersson and Andersson 2006, p.42). According to data from 2002, Sweden with a 12.5 per cent share of leisure expenditure, is ranked third after Norway and the UK.

Rapid expansion in tourism research over the past three decades brought about a wide range of studies that tackles probably the most important aspect of tourism as a sector: demand. The diversity in the ways tourism demand is empirically studied and forecasted itself captured great attention where several researchers reviewed the particular aspect of the sector (Crouch, 1994; Li et al., 2005; Lim, 1997a, 1997b, 1999; Witt and Witt, 1995).

The majority of the studies that tackles the tourism demand utilizes secondary data (Song and Li, 2008). This is the approach we follow in our empirical strategy in the present research. However, different than many other existing studies in tourism literature, we do not utilize tourist arrivals (Turner and Witt, 2001a, b; Coshall, 2005; Roselló, 2001), or tourist expenditure data (Li, Song and Witt, 2004; Li, Wong, Song and Witt, 2006). We rather look at the scale of employment in different sub-sectors of the tourism and hospitality sectors, as it indicates what size of demand there is in a given municipality. This aligns with the new economic geography approach in that it is the spatial variation that we are after.

As displayed in Lim (1997), tourism demand typically is measured by modelling the demand as a function of income of origin, transportation cost between the destination and the origin, relative prices, currency exchange rate, and the qualitative factors in receiving/hosting country. The way demand is modelled for tourism is rather similar to the way international trade research has been conducted for many years. This gravitational approach takes the distance into account by way of a better proxy i.e. cost of travel. The cost of travel is tricky to take into account, since making a distinction between domestic and international tourists many times is problematic. When demand is proxied by the scale of different branches of the sector in terms of employment (as we do in our

empirical analysis) the sector as a whole is captured, since there cannot be employment at an establishment unless there is demand for the services provided by it.

The fundamental question for this paper is the variation of the leisure and hospitality service clusters in geography. A very intuitive fact is that all types of industries follow a certain pattern when they cluster. Empirical evidence supports the idea that the tourism and leisure services, like many other functions of the economy, are distributed unevenly across space (Oppermann 1997).

Concentration of different types of industries can –at least partially- be explained by the composition of the labor market in a given region. Urban locations are important because they generate benefits arising from clustering of individuals with certain characteristics. Human capital and its relation to the growth of urban regions have been investigated by a vast literature. Simon and Nardinelli (1996) argue that human capital is an important explanatory variable for understanding the growth of cities in the contemporary city-dominated economies. It has been empirically investigated that growth is negatively related to unemployment and the share of employment in manufacturing (Glaeser et al 1995). In his paper “*Smart Cities: Quality of Life and the Growth Effects of Human Capital*”, Shapiro (2006) highlights that direct measures of quality of life are associated with ‘*consumer city*’ amenities such as bars and restaurants. Glaeser et al (2001) in his paper argues for the importance of consumption possibilities in space where he refers to the services like bars, cafes and restaurants to be the urban amenities. A study done on the Swedish economy by Mellander et al (2011) highlights that the presence of culture related activities is beneficial not only for central market places but also for peripheral regions in Sweden.

Many services require direct interaction between buyer and seller (Bateson 2002). This means that there is an interdependent relationship between the locations of firms’ and households’. Firms in the service sector are dependent on proximity to households and other firms that have a demand for their services. At the same time households and firms also are dependent on the services that are provided by the service firms. This form of mutual dependency is one of the driving forces behind the economies of agglomeration that explain the economic density of urban regions.

A vast literature have been devoted to explaining the forces behind firm and household location patterns. However, the explanations have partly had to change along the shift from a manufacturing to a service- and knowledge-based society. In the early works by von Thunen ([1826]1966), the central market place for agricultural products is the pivot of the regional structure, and land use is explained by the transportation costs involved in bringing the produce to the market. Weber (1909) suggests that the location of the firm is based on the relationship between

transport, input cost, and agglomerative forces. Transportation costs are also the basic factor in understanding the hierarchy of cities (Christaller 1933; Lösch 1940). The presence and importance of agglomeration economies in urban regions have been stressed by numerous scholars. The original idea of agglomeration economies can be attributed to Marshall (1890), although he referred to the phenomenon as 'localized industries'. Ohlin (1933) developed the Marshallian concepts and made a distinction between agglomeration economies that arise from the size of the local (specific) industry and from the size of the local economy respectively. Ohlin also supplemented an analysis of inter-industry linkages that springs from logistical effects and savings on transport costs.

There is also a solid tradition within (New) Urban Economics ((N)UE) to explain agglomeration economies and locational choices through a function of transportation costs (Alonso 1964; Fujita 1985; Krugman 1991). Based on the tradition of von Thünen (1826), Christaller (1933), and Lösch (1940), the NUE provides a micro-fundament for urban spatial structure studies (Alonso 1960, 1964; Muth 1961; Mills 1967). In this literature the regional structure is based on an assumption of a flat featureless plain with one well-defined central business district and with transportation equally costly in all directions. The structure of the city is determined by incomes, tastes, housing, commuting conditions, and the relative use and pricing of urban/nonurban land.

Earlier studies discuss what is referred to as a retail trading area which is located at the core of a certain spatial unit where many different services are concentrated. The observation that retail trade areas are centrally located is important for understanding the concentration of demand as the retail firms are assumed to have chosen an optimal location. Scholars like Lösch (1954) and Huff (1964) suggested that demand decrease with increasing distance from the city core. This type of discussion is particularly relevant for the location pattern of leisure and tourism services, given that they function in similar ways as retailing. Recent studies support empirically that the success of tourism clusters is dependent on the accessibility to the market (Ferri 2004; Lee 2011). This type of dependence on access to the market where leisure and tourism services are present is not exclusive to the urban core but also important for the periphery (Cracknell 1967).

One of the cornerstones of The New Economic Geography (NEG) is the "*love-of-variety*" effect (Krugman 1991; Fujita et al 1999a; Fujita and Thisse 2002), this effect is present both from a consumption and production perspective. The demand side expresses a preference for variety in consumption, and the supply side gains efficiency from increased diversity in intermediate goods. The NEG analyzes the geography of economic activities based on a variety of agglomeration forces and transportation cost. Work by Quigley (1998) has suggested that firm-based diversity is

associated with economic growth, since the existence of a diverse set of industries attract customers.

In the light of abovementioned ideas, we investigate how access to market, labor market composition, commuting patterns, and several other characteristics of a region impact the concentration of different types of leisure and tourism services. Given the theoretical arguments, we should expect a positive relation between regional indicators associated to the market size and local density of service market and the location of leisure and tourism services.

Market potential: measuring the size of regional demand

In this section we proceed with a discussion on the development of a measure for market size. In order to investigate the relationship between the size of leisure and tourism services in terms of employment and market size we need an appropriate measure for the latter. We choose to use a potential or accessibility measure. In the building of this measure we follow Johansson et al. (2002). The accessibility to the sum of all wages in a municipality represents the market potential in that municipality. The sum of all wages in a place is a reasonable measure of the amount of economic activity that is taking place there. By calculating the accessibility to wage sums we account for wage sums in neighboring places and recognize the fact that there almost certainly exist spillover effects across regional borders. Let W_r be the sum of all wages in region r and t_{rm} denote the distance measured in travel time between region r and region m . Also, let λ be a distance-decay parameter. Then the accessibility to wage sums in region r can be calculated as:

$$A_r = \sum_m W_m e^{-\lambda t_{rm}} \quad (1)$$

A_r is the accessibility measure for region r summing over all regions in the country. The size of every other regions contribution to region r 's accessibility will depend on the size of the wage sum but also on its distance to region r . The further away (larger t_{rm}) the smaller the contribution, the speed of the attenuation depending on λ . As in Johansson et al (2002) we recognize that the influence of accessibility may differ between different categories of regions. Typically a functional economic region (FER) is a group of regions (municipalities) between which there are frequent cross-border interactions. These interactions take place in the form of commuting, retail travel and unplanned service contacts. Sweden is divided into 290 municipalities

(regions) which are divided into 81 FER:s by the Swedish Agency for Economic and Regional Growth based on the level and frequency of such cross-border relationships. Taking this spatial structure into account, this leaves us with the following division of \mathcal{A}_r into three parts:

$$A_{rr} = W_r e^{-\lambda t_{rr}} \quad (2)$$

$$A_R = \sum_{s \in R} W_s e^{-\lambda t_{rs}} \quad (3)$$

$$A_{exR} = \sum_{s \notin R} W_s e^{-\lambda t_{rs}} \quad (4)$$

In equations (2), (3) and (4) \mathcal{A}_r is the part of the market potential in region r coming from the region itself, \mathcal{A}_R is the part coming from the FER to which r belong and \mathcal{A}_{exR} coming from the rest of the country. When calculating the three sub-sums we use the result in Johansson et al (2002) and recognize that the λ :s are not the same but particular for each sum. For the municipal part it is 0.02, for the regional 0.1, and for the extra-regional 0.05.

So, what we have accomplished in this section is to define three exact and deliberate measures of the market potential in each region (municipality) for the use in the empirical part of this paper.

Figure 1 display three maps, representing the three types of market potentials in Sweden. The first map show the variations of the municipal market potential, the second one show the regional and the last one the extra-regional market potential in Swedish municipalities. The municipal market potential is dispersed throughout Sweden. The regional market potential are more clustered in the south, especially in the three metropolitan regions, Stockholm, Malmö and Gothenburg. The last map, representing the extra-regional market potential is exhibiting a notable pattern for the municipalities that are located in south, where the interaction between many large municipalities is evident. These three maps are showing the uneven distribution of the three market potential measures across the entire country. These measures are the main variables of interest in explaining industry location in our analysis.

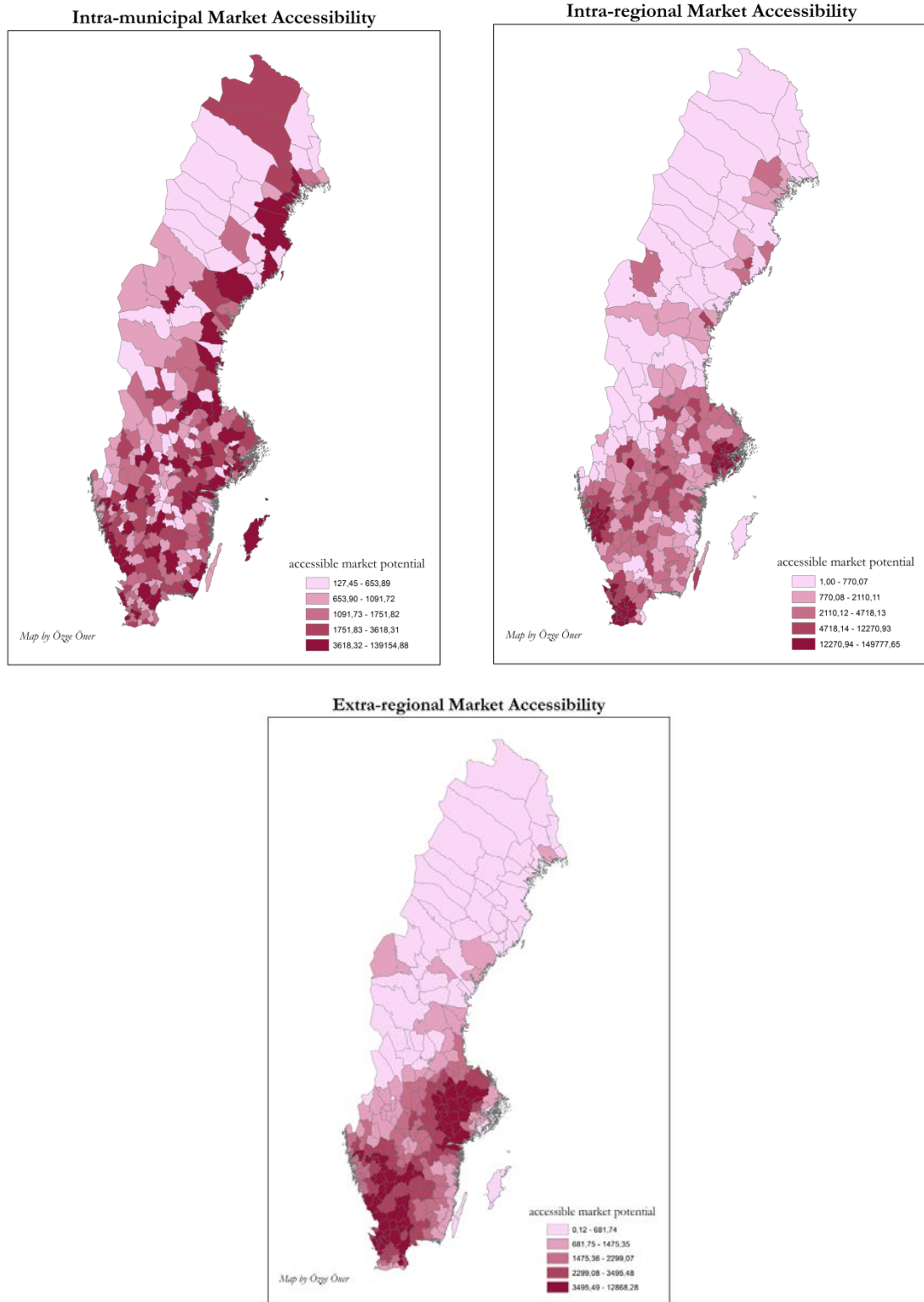


Figure 1. Intra-municipal, Intra-regional and Extra-regional market accessibilities in Sweden

Variables and descriptive statistics

In this section we provide information on the data employed in the empirical analysis. Furthermore, a brief argument for the categorization of the services that are considered to be related to leisure consumption is given. The *sectors*, which are presented in table 1 are based on the standard industrial classification (SIC) at the 5-digit level, obtained from Statistics Sweden. The data is collected for the five year period between 2004 and 2008. The selection of the time period is based on the latest available data that avoids major macroeconomic disturbances and that also avoids changes in the classification system.

In the empirical study 33 different 5-digit level service industries are grouped in eight categories based on their nature. The first category, *Accommodation*, consists of service establishments such as hotels, motels, hostels, and camping sites. The second category, *Culinary*, consists of restaurants, bars, canteens, and catering services. The *Motion Picture* category consists of movie theatres (motion picture projection) and service establishments for video and DVD renting. For the next category, *Special Events*, exhibition, trade fair, congress, and day conference activities are grouped together with the fair and amusement activities due to the similarities in the services that they provide. The events that take place in these services often require the consumers to travel further distances. The *Arts* category consists of service establishments that are engaged in artistic and literary creation and interpretation activities, and other types of arts facilities. Services that are mostly publicly funded in Sweden, such as libraries, museums, historical sites and buildings, and botanical and zoological gardens fall under the Public category in our analysis. The *Sports* category consists of activities that are directly or indirectly related to sports. The final category is *Well-being*, consists of services such as hairdressing, beauty treatment, spa etc.

Table 1. Leisure service categories

ACCOMMODATION
<ul style="list-style-type: none">• Hotels with restaurant, except conference centers• Lodging activities of conference centers• Hotels and motels without restaurant• Youth hostels and mountain refuges• Camping sites, including caravan sites• Other provision of lodgings n.e.c.
CULINARY
<ul style="list-style-type: none">• Restaurants• Bars• Canteens• Other Catering
MOTION PICTURE
<ul style="list-style-type: none">• Video and DVD film renting• Motion picture projection
SPECIAL EVENTS
<ul style="list-style-type: none">• Exhibition, trade fair, congress and day conference activities• Fair and amusement park activities
ARTS
<ul style="list-style-type: none">• Artistic and literary creation and interpretation• Operation of arts facilities
PUBLIC
<ul style="list-style-type: none">• Public Library Activities• Museum activities and preservation of historical sites and buildings• Botanical and zoological gardens and nature reserves activities
SPORTS
<ul style="list-style-type: none">• Operation of ski facilities• Operation of golf courses• Operation of motor racing tracks• Operation of horse race tracks• Operation of arenas, stadiums and other sports facilities• Sportsmen's and sports clubs activities• Horse racing activities• Sporting activities• Organization of sport events• Gambling and Betting• Operation of riding schools and stable activities
WELL-BEING
<ul style="list-style-type: none">• Hairdressing• Beauty treatment• Physical well-being activities

Two of the categories that are studied are mapped in figure 2 to give a picture of the relation between the total market potential in a municipality and the presence of leisure service clusters. The employment in the service sectors are represented with proportionate-size symbols to show the variation across different regions. The first map is picturing the relationship between

the category *Culinary* and market potential and the second one is for the relation between *Special Events* and market potential.

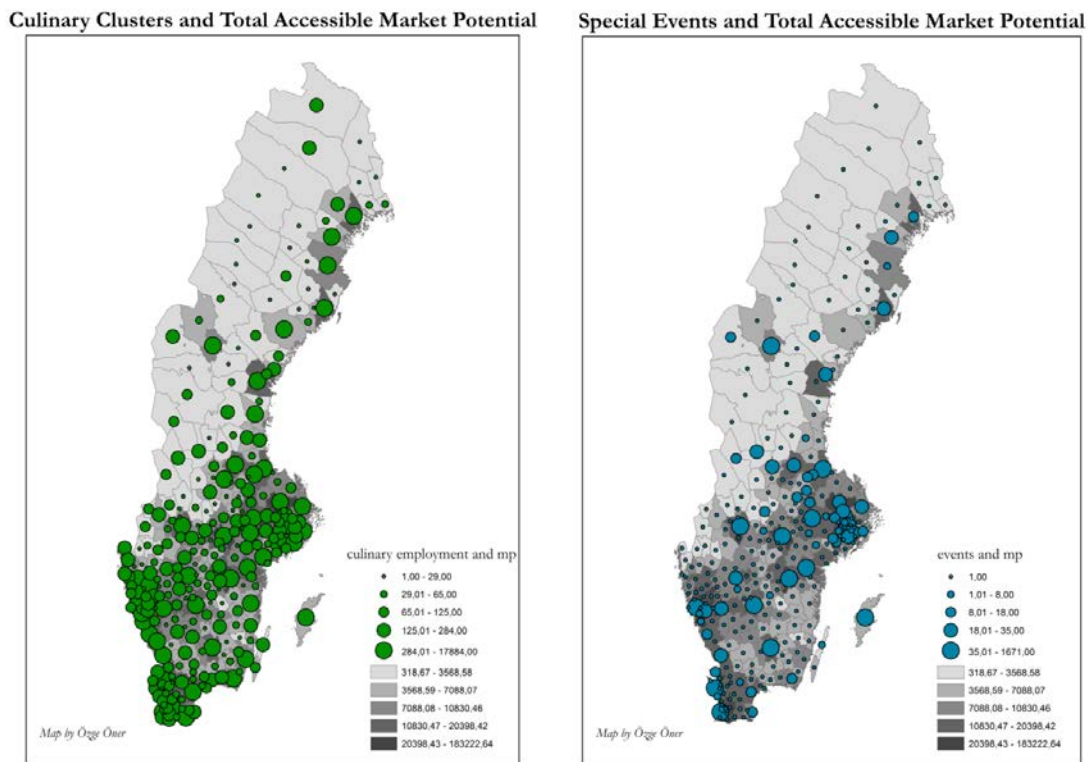


Figure 2. The location of Culinary and Special Event categories related to the market potential

We can see that the relationship between the market potential goes hand in hand with the degree of leisure clusters in the respective municipalities.

In the analysis, the degree of leisure service clustering is measured as the employment in the respective category in a municipality. Now taking a look at the descriptives in table 2 for the employment trend in the respective categories, we see a varying picture. The share of employment in the investigated services as a whole with respect to overall employment was approximately 4.5% in 2003 and increased up to 5.1% in 2008.

The only category where there is a decrease in the employment is *public* with 5.5 percent negative change. *Culinary* and *well-being* related services have experienced the two highest employment increases over the period. Being the highest figure, the change in well-being employment is 36 percent in five years. This drastic increase is followed by the *Culinary* and the *Arts* categories. The overall employment growth in the economy during the period was 8 percent while in these service sectors it was 21 percent.

Table 2. Employment in leisure and tourism sectors

Categories	2003	2008	Change	Percentage Change
Accommodation	30036	35162	5126	17
Culinary	68803	87729	18926	28
Motion Picture	1613	1721	108	7
Special Events	4193	4680	487	12
Arts	14991	18313	3322	22
Public	14546	13751	-795	-5
Sports	29664	33288	3624	12
Well-being	22201	30104	7903	36
Sum	186047	224748	38701	21
Total Employment in Sweden	4083383	4406789	323406	8
Share of leisure and tourism (%)	4.5	5.1		

In our analysis, we expect the market potential in close proximity (intra-municipal) to play a significant and positive role for the presence of all type of services in question. This impact, however, should be notably different for different services. We hypothesize that it is the very local demand that matters most. The impact from the market potential in the region (intra-regional), on the other hand, should be negative if it is significant, implying the effect from competition among the municipalities that are hosted in the same region. This impact, also, should be notably different for different services. This variation should mostly be driven by the frequency of consumption of the respective services. We don't expect the extra-regional market potential to play a significant role for the degree of leisure service clusters. Nevertheless, possible significant results should also signal a competition effect.

Dependent Variables

To capture the sector concentration, total employment for each of the eight categories are measured at the municipal level. These eight categories are then introduced as separate dependent variables in the regression analyses designed to investigate the concentration of these services in Swedish municipalities in a multivariate setting⁴. The variables are denoted $Emp_{i,r}$ below for each service industry i and municipality r .

Independent Variables

Market potential: The three components of the market potential, as explained in section 3, are introduced as explanatory variables in the regression analyses. The notation is given by: A_m , A_R and A_{exR} for municipal, region and extra-region market potential.

⁴ In the cases where there was no employment in some service branches in a municipality the zero values are replaced with one to allow for log transformation. In order to avoid the disturbance caused by this manipulation a dummy variable is introduced if a replacement is applied.

Intensity of In-Commuting: This variable gives an idea about the impact of commuting flows from and to the Swedish municipalities. More central municipalities are expected to have higher in-commuting intensity than the non-central ones. It is measured as commuting flows into a municipality divided by the sum of in and out commuting flows to and from the municipality. This variable is denoted by: IC_r for the in-commuting intensity into region r .

Entry Rate: This variable is used to control for the impact from the new businesses that started in a given year. The number of new establishments are divided by the population in working age⁵. Rather than dividing the new firms by the total number of firms in a market, using the population with entrepreneurial capacity as a denominator is found to be a more valid approach to detect the entrepreneurial tendencies in a region (Audretsch 1994). The variable is represented by ER_r for the entry rate in region r .

Employment share: The employment share is measuring the share of individuals in working age that are actually employed. It is denoted by Emp_r for the employment share in region r .

Employment share in Manufacturing Sectors: This variable is introduced to investigate whether there is a significant relationship between the scale of leisure and hospitality services in a given municipality and the employment in the manufacturing industries. As discussed in the previous section the intensity of employment in manufacturing sector is expected to be negatively related to the concentration of most of the investigated leisure and tourism services. This variable is denoted by Man_r for the share of the employed that work in manufacturing.

House Prices: House prices are treated as one of the indicators of a regions attractiveness. High amenity regions are known to attract residents, which then is reflected in the house prices (Roback, 1982). House prices in region r are denoted by HP_r .

Sea Border: This is a dummy variable indicating if a municipality is bordering the sea or not. Together with house prices, this variable proxies regions attractiveness. This dummy is denoted by $D_{r,sea}$.

⁵ Age between 20-64

Estimating the determinants of leisure and hospitality service location

In order to capture the underlying spatial factors that explain the spatial distribution and size of leisure service clusters in municipal markets a spatial cross-regressive model using municipality level data is estimated. A table presenting the descriptive statistics can be found in the appendix.

Demand for leisure services are not likely to stop at the regional border, this gives rise to spatial dependencies between regions. The spatial reach of the dependency may be different for different leisure services. The strength of the dependency is diminishing with distance. This potential empirical problem is explicitly modeled through the use of the three market potential variables introduced in section 3.

The model presented in equation (5) below are based on the theoretical arguments presented in the respective section to capture the spatial determinants of leisure service clusters.

$$\ln Emp_{i,r} = \beta_0 + \beta_1 \ln A_{rr} + \beta_2 \ln A_R + \beta_3 \ln A_{exR} + \beta_4 IC_r + \beta_5 \ln ER_r + \beta_6 \ln Emp_r + \beta_7 \ln Man_r + \beta_8 \ln HP_r + \beta_9 D_{r,sea} + \mu_{i,r} + year\ dummies$$

(5)

The explanation and interpretation of each variable is given in the above section. The main empirical strategy is to run pooled OLS regressions using information over the 5 years between 2003 and 2008. Due to the fact that many of the explanatory variables are close to being time invariant we choose not to use a fixed effects estimation technique. In the pooled OLS estimations presented in table 3, standard errors are clustered by municipalities.

The high R-square values indicate a possible issue with reverse causality. Municipalities with high market potential may after all be inherently more attractive, which implies that the presence of leisure service clusters may appear as a consequence of historical accident, so do intra-municipal market accessibility. In order to check if there is a problem of this nature we have made an IV estimation instrumenting industry population of municipalities from the year 1900 for the intra-municipal market accessibility. Results don't signal any problem of endogeneity. The pairwise correlations between the independent variables are also checked but do not give cause to worry about multicollinearity. Now, turning to the interpretation of our results;

Table 3. Leisure and tourism employment explained by regional characteristics

	Accommodation	Culinary	Motion picture	Special events	Arts	Public	Sports	Well-being
Intra-municipal	0.621*** (8.690)	1.009*** (22.84)	0.276*** (3.545)	0.335*** (3.407)	0.805*** (10.15)	0.817*** (12.67)	0.997*** (19.84)	1.065*** (45.69)
Intra-regional	-0.230*** (-7.029)	-0.0896*** (-3.863)	0.0280 (1.245)	0.0350 (1.116)	-0.0373 (-1.164)	-0.0720** (-2.360)	-0.0413 (-1.554)	-0.0496*** (-3.121)
Extra-regional	-0.0431 (-1.330)	-0.0178 (-0.801)	0.0066 (0.336)	-0.0340 (-1.524)	-0.0626** (-2.183)	-0.0158 (-0.511)	-0.0783*** (-2.869)	0.0261* (1.937)
Commuting	0.359 (0.858)	-0.119 (-0.368)	0.183 (0.788)	0.165 (0.625)	-0.616 (-1.556)	-0.249 (-0.682)	-0.567 (-1.521)	-1.530*** (-8.516)
Entry Rate	0.578*** (3.493)	0.233** (2.580)	0.284** (2.116)	0.284 (1.541)	0.547*** (3.833)	0.0704 (0.568)	0.150 (1.524)	0.0868 (1.469)
Employment	0.343 (0.315)	-0.499 (-0.701)	-2.821*** (-4.696)	-1.433* (-1.798)	-3.204*** (-3.018)	-1.080 (-1.415)	0.222 (0.312)	0.939** (2.346)
Manufacturing	-1.654*** (-3.744)	-1.020*** (-3.149)	-0.401* (-1.833)	-0.349 (-1.326)	-1.678*** (-4.427)	-1.585*** (-4.029)	-0.914*** (-2.735)	-0.729*** (-3.880)
House Prices	0.558*** (4.922)	0.441*** (5.984)	-0.0509 (-0.796)	-0.117 (-1.315)	0.267*** (2.738)	-0.0265 (-0.230)	0.210** (2.453)	0.111** (2.328)
Sea Border	0.118 (1.252)	0.192*** (3.748)	-0.0972 (-1.614)	-0.144* (-1.775)	0.0500 (0.610)	0.143* (1.884)	-0.0478 (-0.797)	0.0779** (2.121)
Constant	-3.526*** (-3.138)	-4.954*** (-7.439)	1.998*** (3.019)	1.491* (1.921)	-2.304** (-2.265)	-0.772 (-0.963)	-3.860*** (-5.300)	-4.741*** (-12.60)
Year Dummies?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1,740	1,740	1,740	1,740	1,740	1,740	1,740	1,740
R-squared	0.831	0.919	0.923	0.887	0.902	0.881	0.878	0.951

Robust t-statistics in parentheses

*** p<0.01, ** p<0.05, * p<0.1

As shown in equation (5) some variables are log-transformed, so their coefficients can be interpreted as elasticities. *Intra-municipal* market accessibility has a positive and significant impact on the presence of leisure service clusters in all eight categories. This is not a surprising finding. What is really interesting is that the elasticities for some categories like *Culinary* and *Well-being* extends beyond the value one, implying that doubling the accessible market potential within the municipal borders would lead to more than a 100 percent increase in the employment in these sectors in the respective municipalities. Highly significant and large coefficients are obtained for the impact from intra-municipal market accessibility is supporting the idea of a strong dependence on the proximate market. This is very much in line with the propositions of traditional location theories (e.g. central place theory), which argue that the consumers will travel to the nearest center providing the desired good or service and the distance they are willing to travel will be dependent on the type and order of the service they would like to enjoy (Dicken and Lloyd 1990). By the same token, we see significantly lower coefficients for the services like *Accommodation* and *Special Events*, than the rest of the categories, implying a somewhat weaker dependency on the local demand for the presence of these clusters.

When we look at the impact from intra-regional market accessibility, which is the demand originating from the surrounding municipalities, we once more find support for the earlier discussion on an urban-periphery structure. If consumers in a municipality have higher access to

other market places nearby and/or the market potential of these neighboring municipalities expand, they will be more likely to travel and patronize further away services. If not significant and negative, this kind of impact is non-existent or negligible and the neighboring municipalities are not influencing each other. We see a negative and insignificant impact from higher intra-regional accessible market potential on the clusters of *Accommodation, Culinary, Public, and Well-being*, where municipalities in the same region then are in competition for the consumers demanding these services. This kind of impact is insignificant for the other sector categories. As expected the extra-regional market accessibility has virtually no impact on the presence of these clusters, meaning that a consumer is not likely to commute outside of his region to consume respective leisure services. If they do, as discussed previously, this would imply a competition effect for the service in question. The negative and significant signs we see for *Arts* and *Sports* are implying that this kind of impact is driven by competition that expands beyond regional market boundaries.

Moving onto the next variable associated with the place of the market in question in the job-residence hierarchy, *Commuting* is almost insignificant in all cases, other than the *Well-being* category. This is a variable capturing not only the inflow of consumers in a municipality but also the composition of consumers in the respective market place. The reason why the impact from commuting intensity in a municipality has a very high and negative impact on the presence of *Well-being* service clusters may be that most of the people that are in-commuting to a municipality is very likely to enjoy services provided by e.g. hairdressers and nail salons in their residential location rather than where they work. This result requires a deeper investigation of this particular category.

Explanatory variables that are attributes of the labor market are drawing a very consistent picture. Entry rate in a municipality, which is signaling the impact of the entrepreneurial milieu on the presence of these service clusters is positive if there is any significant impact, like it is for the categories *Accommodation, Culinary, Motion Picture* and *Arts*. However, when we look at the impact from the share of *Employment* in a municipality, which can be attributed to higher purchasing power in a region, it has a negative and significant impact on the services that are categorized under *Motion Picture, Special Events, Arts, Public, and Well-being*. One explanation to that situation is given by Andersson & Andersson (2006). The authors discuss that certain types of entertainment and arts related goods are likely to be consumed by lower income receiving individuals. Motion Picture in their argument is given as a classic example to this phenomena where the young individuals with less (or no) income are constituting the biggest share of demand for movie theatres. The same argument applies to *Arts* and *Public* as well, given the entrance fee for many events are either very cheap or non-existing due to government subsidies. Nevertheless, the result for *well-being* may imply

a special case for Sweden. This category contains services like nail salons and hairdressers, which are a highly present service in all Swedish municipalities.

One other labor market related explanatory variable, *Share of Employment in Manufacturing*, has significant and negative impact on each and every category as expected. Our findings once more confirm that manufacturing industries and leisure services are not likely to be located close to each other. This result is in line with theories regarding the distribution of different types of economic activities across space in an hierarchical order.

The last category of explanatory variables are designed to capture a region's attractiveness, these are *Housing Prices*, and *Sea Border*. Housing prices are positively associated with the presence of service clusters like *Accommodation* and *Culinary*, which are at the heart of hospitality sector. It is reasonable to see this kind of result, given that a place with touristic attraction would have higher housing prices. Not to the same degree of magnitude, but we see a positive and significant relationship between housing prices and some other service clusters like *Arts*, *Sports* and *Well-being* as well. Municipalities bordering to the sea have a higher concentration of services that are listed under the categories of *Accommodation*, *Culinary*, *Arts*, and *Public*.

Having a Sea Border in a municipality has a positive impact on the presence of movie theatres. This type of positive impact is present for the categories *Public* and *Well-being* however the impact is negligible. We see a negative and significant relationship between having a border to sea and the clustering of *Special Event* activities. Except the metropolitan areas that are bordering to the sea, these events take place in establishments that are relatively large. Land is much more valuable by the water, hence we are more likely to see these kind of land intensive activities (fairs, etc.) to take place in inland Swedish municipalities.

Concluding remarks

Leisure and hospitality services are becoming more and more significant for the prosperity of regions. This is acknowledged by both scholars and regional policy-makers. Tourism and leisure services may represent a significant share of the total economic activities in a region bringing opportunities for employment and economic growth. Also, the presence of such services are recognized as being essential for the perceived attractiveness of regions. The regional hierarchy itself is expected to be an important determinant for understanding the spatial distribution of leisure service employment. Using the notion of market potential regional spillover effects can be taken into account. In the empirical section a spatial cross-regressive model using municipality level data is estimated. Results indicate that market potential within a municipality has a significant and

positive impact in all cases (although elasticities are ranging from 0.276 to 1.065), whereas the impact from accessible market potential that extends outside of the municipal market boundaries exhibit a variable picture depending on the nature of the leisure service in question.

Intra-municipal market accessibility has a positive and significant impact on the presence of leisure service clusters in all eight categories that are analyzed. This is not a surprising finding. What is really interesting is that the elasticities for some categories like *Culinary* and *Well-being* extends beyond the value one, implying doubling the accessible market potential within the municipal borders would lead to more than a 100 percent increase in the employment in these sectors in the respective municipalities. The highly significant and large coefficients that are obtained for the impact from intra-municipal market accessibility is supporting the idea of a strong dependence on the proximate market. The negative impact from *Intra-regional* market accessibility on several categories of leisure services implies a competition effect imposed by other market places within the same region.

A local policy implication that can be derived from our results is that it may be rewarding to improve access to the respective markets in order to realize an increase in the scale of leisure services. Infrastructure investments are not only decided upon by the local authority but also by the national authority. In addition to the fact that an increased accessibility on a national level would benefit the services in question irrespective of their location, local authorities can also make innovative arrangements to improve the accessibility, for instance concerning local/regional public transit systems.

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Appendix

Table A-1: Descriptive statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
Intra-municipal	1739	7.31	1.06	4.85	11.84
Intra-regional	1739	7.53	2.78	0	11.92
Extra-regional	1739	7.25	1.13	-2.32	9.46
Commuting	1739	0.41	0.14	0.1	0.74
Entry rate	1739	2.61	0.31	1.61	3.66
Employment	1739	0.78	0.04	0.54	0.87
Manufacturing	1739	0.3	0.11	0.08	0.66
House prices	1739	6.86	0.65	5.45	8.82
Sea border	1739	0.28	0.45	0	1